

**INTEGRATING CLIMATE CHANGE INTO CONSERVATION AND
MANAGEMENT OF MARINE FISHERIES RESOURCES: A STUDY OF THE
SUSTAINABLE DEVELOPMENT OF MARINE FISHERIES IN NIGERIA**

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DECLARATION

This work has not previously been accepted in substances for any degree and is not being concurrently submitted in candidature of any degree

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DEDICATION

This Thesis is dedicated to God Almighty, the Alpha and Omega

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Abstract

The state of marine fishery resources globally and particularly in Nigeria is a matter of considerable concern. Hitherto, international and Nigerian fisheries laws, as well as the opinions of legal scholars on how to address this problem, have focused predominantly on overfishing. Meanwhile, scientific literature reveals that increasing ocean temperatures caused by global warming have serious legal and management implications on the sustainable development of marine fishery resources. This thesis argues that sustainability of marine fishery resources is achievable only if states, including Nigeria, adopt a holistic and proactive approach to their management. This approach demands mainstreaming climate change into harvest-based measures by applying precautionary and ecosystem management methods. The approach further requires coastal and fishing states to comply with fisheries and climate change regimes.

The management of Norwegian spring spawning herring and Frazer River sockeye was case-studied and the lessons learned are used as a guide to address the adverse impact of climate change on Nigeria's already overexploited marine fisheries. However, since societies are not the same and documentary data require triangulation, semi-structured interviews were conducted to obtain the views of stakeholders in the marine fisheries sector on the major themes investigated.

The first part of this thesis covers the introduction, research methodology and an examination of some preliminary issues. Part two ascertains how international fisheries law has addressed the problems of overfishing and climate change. Part three identifies the main lessons from the aforementioned case studies and advocates that states should adopt holistic approaches to compliance in solving the marine fish crisis. Part four investigates the extent to which Nigerian fisheries law has addressed the problems of overfishing and climate change; it also examines Nigeria's compliance with international fisheries law. The concluding part recommends, in particular, that Nigeria should enforce conservation measures at sea, broaden participation of stakeholders in marine fisheries management and reduce its greenhouse gases emissions.

Abbreviations and Acronyms

Agency	National Environmental Standards and Regulations Enforcement Agency
BRD	By-Catch Reduction Devices
Cabotage Act	The Coastal and Inland Shipping (Cabotage) Act No. 5 of 2003
CBD	1992 Convention on Biological Diversity
CBN	Central Bank of Nigeria
CCAMLR	Convention on the Conservation of the Antarctic Marine living Resources
CCSBT	1993 Convention for the Conservation of Southern Bluefin Tuna
CDM	Clean Development Mechanism
CDS	Catch Documentary Scheme
CFCs	Chlorofluorocarbons
CFCHS	Convention on Fishing and Conservation of the Living Resources of the High Seas
CH ₄	Methane
CIA	Central Intelligence Agency
CO ₂	Carbon dioxide
Code	1995 FAO Code of Conduction for Responsible Fisheries
COFI	FAO Committee on Fisheries
Compliance Agreement	1993 Agreement to Promote Compliance International Conservation and Management Measures by Fishing Vessels on the High Seas
Convention	United Nations Convention on the Law of the Sea 1982
DWFNs	Distant Water Fishing Nations
EEZ	Exclusive Economic Zone
EIA Act	Environmental Impact Assessment Act
EIA Sectoral Guidelines	Environmental Impact Assessment Sectoral Guidelines: Agriculture and Rural Development
El Niño	Southern Oscillation (ENSO)
EU	European Union

FAO	United Nations Food and Agriculture Organisation
FCWC	Convention for the Establishment of the Fisheries Committee for the West Central Gulf of Guinea
FDF	Federal Department of Fisheries
FEPA	Federal Environmental Protection Agency
Fishing Regulation	Sea Fisheries (Fishing) Regulation 1992
FMEHUD	Federal Ministry of Environment, Housing and Urban Development
Fraser sockeye	Fraser River sockeye salmon
FSA	1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks
GATT	General Agreement on Trade and Tariff
GEF	Global Environmental Facility
GHGs	Greenhouse Gases
HCFCs	Hydrochlorofluorocarbons
ICJ	International Court of Justice
IEAs	International Environmental Agreements
IFA	Inland Fisheries Act Cap I10 LFN 2004
IFL	International Fisheries law
IPCC	Intergovernmental Panel on Climate Change
IPOAs	International Plans of Action
IPOA-Capacity	FAO International Plan of Action for the Management of Fishing Capacity
IPOA-IUU	FAO International Plan of Action on Illegal, Unreported and Unregulated Fishing
IPOA-Seabirds	FAO International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries
IPOA-Sharks	FAO International Plan of Action for the Conservation and Management of Sharks
ITLOS	International Tribunal on the Law of the Sea
IUU fishing	Illegal, Unreported and Unregulated Fishing
LFN	Laws of the Federation of Nigeria 2004

Licensing Regulation	Sea Fisheries (Licensing) Regulation 1992
Live Fish Act	Live Fish (Control of Importation) Act Cap L14 LFN 2004
MCS	Monitoring, Control and Surveillance
MIFS	Minutes of Meetings of Industrial Fisheries Stakeholders
MSA Act	Merchant Shipping Act No. 27 2007
MSY	Maximum Sustainable Yield
N ₂ O	Nitrous oxide
NA21	Nigeria Agenda 21
NAO	North Atlantic Oscillation
NESREA Act	National Environmental Standards and Regulations Enforcement Agency (Establishment) Act No. 25
Nigeria's National Communication	Nigeria's First National Communication under the United Nations Framework Convention on Climate Change
NGOs	Non-governmental Organisations
NIMASA Act	Nigerian Maritime Administration and Safety Agency Act No. 17, 2007
NIOMR	Nigerian Institute of Oceanography and Marine Research
NITOA	Nigerian Trawlers Owners Association
NPOAs	National Plans of Action
NSS Herring	Norwegian Spring-Spawning herring
%	Percent
O ₃	Ozone
Para	Paragraph
PDO	Pacific Decadal Oscillation
Planning Act	Nigerian Urban and Regional Planning Act Cap N138 LFN 2004
Quality Assurance Regulation	Sea Fisheries (Fish Inspection and Quality Assurance) Regulation, 1995
R & AO	Registered & Actually Operated
RFMOs	Sub-regional and Regional Fisheries Management Organisations/Cooperative Arrangements
SCMFMCSGG	Sub-Regional Cooperation in Marine Fisheries Monitoring, Control and Surveillance in the Southern Gulf of Guinea on

	the Harmonisation of Fisheries Laws and Regulations of the Region
SCN	Supreme Court of Nigeria
SFA	Sea Fisheries Act
SHMFS	Straddling and Highly Migratory Stocks
SOFIA	The State of World Fisheries and Aquaculture
SST	Sea Surface Temperatures
TAC	Total Allowable Catch
TED	Turtle Excluder Devices
TED/BRD Regulation	Use of Turtle Excluder Devices (TEDs) and other By-Catch Reduction Devices (BRDs) on Shrimp Trawl Nets Regulations, 2006
The 2008 Agreed Record	The Agreed Record of Conclusions of Fisheries Consultations on the Management of the Norwegian Spring-Spawning (Atlanto-Scandian) Herring Stock in the North-East Atlantic 2008
The 1999 Agreement	Agreement Between the Government of Canada and the Government of the United States of America Concerning Pacific Salmon
The 1999 Constitution	Constitution of the Federal Republic of Nigeria 1999
UN	United Nations
UNCLOS I	United Nations Conference on the Law of the Sea 1958
UNCLOS II	United Nations Conference on the Law of the Sea 1960
UNCLOS III	United Nations Conference on the Law of the Sea (1973 - 1982)
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
US	The United States of America
Vienna Convention	Vienna Convention on the Law of Treaties 1969
VMS	Vessel Monitoring System
WTO	World Trade Organisation
www	World Wide Web

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